Title: Bottom-up and top-down factors in the ventriloquist effect

Multisensory integration depends on bottom-up sensory reliability to infer a common cause across inputs from different modalities. While the predictive coding framework suggests that top-down signals can actively guide this process, it remains unresolved how such influence modulates multisensory integration with the presence/absence or reliability of sensory inputs. To address this, we manipulated both bottom-up and top-down aspects within a ventriloquist paradigm. Participants conducted an auditory localization task while the visual stimulus was either present or absent and its contrast varied when present (high- vs. low-visibility). Top-down influence induced by an arrow cue consistently indicated the upcoming visual location after a fixed fixation interval. The ventriloquist effect, the auditory localization bias toward the visual location, was analyzed to determine the relative influences of the bottom-up and top-down factors and their potential interaction. Results showed that a stimulus of high visibility significantly induced the ventriloquist effect (10.14° ± 2.61°), whereas the magnitude of this effect decreased with a stimulus of low visibility (3.95° ± 4.68°). Crucially, the presentation of a spatial cue in the absence of a visible stimulus failed to induce the ventriloquist effect (1.16° ± 1.68°). Taken together, these findings suggest that bottom-up sensory reliability modulates multisensory integration within the ventriloquist paradigm, while the presence of sensory input serves as a prerequisite that gates top-down influence. To further examine the interaction of sensory reliability and top-down influence, ongoing work investigates whether prediction can modulate multisensory integration by enhancing the effective reliability of low-visibility visual inputs.